

CLAIMS:

1. A process for the preparation of doped anionic clay wherein a trivalent metal source is reacted with a divalent metal source, at least one of the metal sources being either doped boehmite, doped MgO or doped brucite, to obtain a doped anionic clay.
2. The process of claim 1 wherein doped boehmite is reacted with a divalent metal source.
3. The process of claim 1 wherein doped brucite is reacted with a trivalent metal source.
4. The process of claim 1 wherein doped MgO is reacted with a trivalent metal source.
5. The process of claim 2 wherein in addition to the doped boehmite another trivalent metal source is present in the reaction mixture.
6. The process of claim 3 wherein in addition to the doped brucite another divalent metal source is present in the reaction mixture.
7. The process of claim 4 wherein in addition to the doped MgO another divalent metal source is present in the reaction mixture.
8. The process of claim 1 wherein the trivalent metal source and the divalent metal source are reacted under hydrothermal conditions.
9. The process of claim 1 wherein the doped boehmite, the doped MgO and/or the doped brucite contain a rare earth metal compound as dopant.

10. The process of claim 1 wherein the doped boehmite, the doped MgO and/or the doped brucite is added in excess to obtain a composition comprising anionic clay and doped boehmite, doped MgO and/or doped brucite.

5

11. A process for the preparation of a doped Mg-Al solid solution and/or spinel, wherein an anionic clay obtained by the process of claim 1 is subjected to a heat-treatment at a temperature between about 300° and about 1200°C.

10 12. A process for the preparation of doped anionic clay, wherein the Mg-Al solid solution obtained by the process of claim 11 is rehydrated to form a doped anionic clay.

13. A doped anionic clay obtained by the process of claim 1.

15

14. A doped anionic clay obtained by the process of claim 12.

15. A shaped body comprising the doped anionic clay of claim 13.

20 16. A catalyst composition containing the doped anionic clay of claim 13.

17. A catalyst additive composition containing the doped anionic clay of claim 13.

18. A shaped body comprising the doped anionic clay of claim 14.

25

19. A catalyst composition containing the doped anionic clay of claim 14.

20. A catalyst additive composition containing the doped anionic clay of claim 14.